CONFIDENTIAL

NFAC#5627
7 September 1981

MEMORANDUN FOR: [redacted] Chairman/National Intelligence Council 25X1

FROM : [redacted] Analytic Group 25X1

SUBJECT : The role of an NIO for matters of Science and Technology

1. The category "science and technology" in the intelligence community currently embraces a wide variety of such unrelated subjects as recombinant DNA research, nuclear-pumped laser development, and climate modification. Analysis is often needed by consumers 10 to 20 years before the foreign S&T developments in question could have an impact on the United States. Estimating the future implications of current S&T developments requires familiarity with the latest advances in science and technology. The diversification, long lead-time, and the need to remain up-to-date have the following impact on S&T intelligence:

a. Analysis is often esoteric, with aspects often understable only to a few intelligence analysts.
b. The special knowledge required in analyzing a narrow S&T subject reduces the possibility of finding analysts also skilled in political, military, or economic analysis. Similarly, analysts in the other fields shy away from S&T issues.
c. Collection components geared to political, military, and economic intelligence requirements often have difficulty coping with requirements for information on S&T matters.
d. Policymakers are often ill equipped to discern S&T questions in the issues they face, and are less well equipped to choose among conflicting analyses in the S&T intelligence community.

2. The above observations suggest several potential advantages in creating an NIO/ST slot:

a. The spectrum of possible consumer requests in the S&T field -- and the lean nature of expertise and resources in the intelligence community for responding to them -- suggest that an NIO could usefully serve as a filter and broker of consumer requests.
b. The human barriers to coordinating S&T analysis with political, military, and economic analysis suggest that a central authority such as an NIO would be able to ensure a better multidisciplinary response to consumer needs.
c. An NIO/ST would be in a position to champion specific collection

requirements that, because of their esoteric nature, have not received adequate support by collectors.

d. A key benefit would be the NIO/ST capability to move among the major S&T oriented consumers (a group that consists of the NSC and the President's chief science advisor, DoD/DDR&E, Commerce, DOE, and State/OES). The principal S&T figures in this group typically are unaware of the intelligence community's ability to help them on specific issues and lack a contact in the intelligence community who could speak authoritatively about the intelligence resources that would be able to respond to their varying needs. Equally useful, an NIO/ST would be able to identify the S&T issues within the more general issues facing non-S&T-oriented policymakers (e.g. economic competition with Japan) and would be able to interact with these consumers to determine whether S&T intelligence is succeeding in helping the intended users.

3. The existing mechanisms for collecting and producing intelligence have been able to cope with the special nature of S&T intelligence, more or less adequately, and in some ways serve quite well. The interagency Scientific and Technical Intelligence Committee, for example, focuses community attention on the specific collection efforts needed to respond to key S&T issues, and it also contributes finished intelligence based on interagency study and consensus. Also, in the case of specific S&T issues that are already of recognized importance, "old boy" and low-level ties between consumers and producers often have sufficed to get the job done. The primary improvement that could be expected in creating a central broker for S&T intelligence issues would be in the area of the intelligence community's greatest current weaknesses--monitoring new S&T issues facing the consumers, and in marketing S&T intelligence conclusions in multidisciplinary packages.

4. Despite the apparent advantages in creating an NIO for S&T, such an NIO could experience serious problems in trying to realize the desired improvements in S&T intelligence. The multifarious nature of S&T intelligence, first of all, suggests that an NIO/ST would differ from economic, military, and regional NIOs. Whereas the other NIOs function as substantive experts capable of fielding new questions and exploring new issues with consumers in an extemporaneous manner, the NIO/ST could never approach comparable expertise on a broad range of subjects. More than the other NIOs, he would be dependent upon diverse analytical components in the intelligence community. This would make quick response difficult and in some cases could merely complicate the existing production process. The esoteric nature of the NIO/ST portfolio might also limit his ability to represent the DCI in discussions with policymakers on S&T intelligence issues.

5. An NIO/ST routinely would have to work quite closely with all other NIOs in the NIC, if he is to be effective in indentifying the S&T components of general non-S&T-oriented issues. In improving the blending of political, military, economic, and S&T analysis, the NIO/ST probably would most frequently find himself making inputs to papers being prepared by the other NIOs. His"own" production might amount to NIE-11/12 and one or two other estimates per year. Thus an effective NIO/ST probably would have to successfully overcome the factors that inhibit the NIOs from acting as a collegial body.

6. In sum, an NIO/ST could be helpful to the S&T intelligence business in his capacity as a focal point for consumer/producer interaction, but he would need to be propped up extensively by the analytical components of the community, (and hence by the associated line managers). Paradoxically, the need for extensive interaction with internal components would tend to limit the opportunities for an NIO/ST to operate in the consumer environment. An NIO/ST might be most successful as an integrator of S&T analysis into multidisciplinary studies.

Attachment
Customers for S&T Intelligence

Principal Customers

1. President's Science Advisor (George Keyworth) and his associated OSTP staff
2. NSC Staff (various people, depending on subject matter, plus the OSTP representative on the staff)
3. Defense, Undersecretary for Research and Engineering (Richard Delauer) and his deputies -- particularly Robert Cooper, heading the Defense Advanced Research Projects Agency. Also the JCS, Plans and Policy Directoirate (J-5) and the Joint Technical Support Activity Staff
4. State, Bureau of Oceans and International Environmental and Scientific Affairs, (Assistant Secretary James Malone) and Bureau of Economic and Business Affairs (Assistant Secretary Robert Hormats)
5. Commerce, Undersecretary for International Trade (Lionel Olmer) and also a focal point being reestablished at the level of an assistant secretary for S&T matters, which groups NBS, NOAA, NTIS, and the Patent Office.
6. Energy, Assistant Secretary for Research and the Office of International Security Affairs (Julio Torres)

Less Frequent Customers

7. NASA
8. Congress, Office of Technical Assessment
9. NSF
10. NIH (primarily genetic engineering)
11. National Academy of Sciences (Frank Press)
12. US Trade Representative (William Brock)